

Date June 11, 1947File 6-57Subject Study Request #8Those Eligible  
To Read The  
AttachedChemical Composition of Active Waste700 Area.By A. G. ErdmanCopy # 2To M. C. LeverettBefore reading this document, sign and date below:

| Name                 | Date           |
|----------------------|----------------|
| <u>J. R. Huffman</u> | <u>6/13/47</u> |
|                      |                |
|                      |                |
|                      |                |
|                      |                |
|                      |                |

| Name | Date |
|------|------|
|      |      |
|      |      |
|      |      |
|      |      |
|      |      |
|      |      |

## Distribution:

1. M. C. Leverett
2. J. R. Huffman
3. D. J. McKinzie
4. D. J. McKinzie
5. D. J. McKinzie
6. A. A. Nickman
7. J. S. Hayes
8. E. J. Witkowski
9. J. F. Kaufmann
10. A. G. Erdman
11. 1000 Project Master File
12. 1000 Project Master File

This document consists of 2  
pages and 0 figures.  
No. 2 of 12 copies, Series A.

To: M. C. Leverett

Classification Cancelled  
June 11, 1947

From: A. G. Erdman

~~Changed To~~

By Authority Of Doc

In Re: Study Request #8 - Chemical Composition FE/3 Date AUG 25 1971  
of Active Waste - 700 Area.

Kellex has requested an estimate of what the active waste in the 1100 Area may consist of. Rather than attempt to estimate the 1100 Area waste, an attempt was made to determine the material now sent to the 700 Area tank farm. Assuming a combination of wastes from the 1100 Area, 706 E and the Research Center, the chemical content may be generally similar to that now collected in the 700 Area.

The following points should be borne in mind in using the data:

1. The data was compiled from estimates of the various groups as to the waste materials disposed of in a "sample" month.
2. The data may be used for corrosion and evaporation studies, but should be used cautiously.
3. The data should not be used in place of predicted quantities, acidities etc., described by M. C. Leverett in Study Request No. 8, for process studies.
4. No attempt was made to list small quantities of materials or infrequently used materials which might be sent to active waste.
5. The inter-reaction of various chemicals present (e.g. NaOH and HNO<sub>3</sub>) cannot be assumed since they may pass through the process at different times.

CLASSIFICATION CANCELLED

Led Dover 12/29/94

ADD signature

Under direction of the Director  
of the Office of the Director  
of the Office of the Director  
of the Office of the Director

A. G. Erdman

A. G. Erdman  
Process Design Section  
Technical Division

This document contains information affecting the national defense of the U.S. within the meaning of the Espionage Act, U.S.C. 50, 31, and its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

This document has been approved for release to the public by:

David R. Hamm 5/30/95  
Technical Information Officer  
ORNL Site

CHEMICAL COMPOSITION OF  
ACTIVE WASTE - 700 AREA  
MONTHLY BASIS

| Material                                                           | 706D **<br>Run | 706 D ***<br>Decontamination | Chemistry and<br>Semi Works. | Total        |
|--------------------------------------------------------------------|----------------|------------------------------|------------------------------|--------------|
| Al(NO <sub>3</sub> ) <sub>3</sub>                                  |                |                              | 767 lbs.                     | 767 lbs.     |
| (NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub>                   |                | 270 lbs.                     |                              | 270          |
| NH <sub>4</sub> OH                                                 | 450 lbs.       |                              |                              | 450          |
| NH <sub>4</sub> NO <sub>3</sub>                                    |                |                              | 135                          | 135          |
| Ca(NO <sub>3</sub> ) <sub>2</sub>                                  |                |                              | 82                           | 82           |
| Citric Acid                                                        |                |                              | 21                           | 21           |
| Cr O <sub>3</sub>                                                  |                |                              | 7                            | 7            |
| HCl                                                                |                |                              | 62                           | 62           |
| HF                                                                 |                |                              | 1                            | 1            |
| Pb(NO <sub>3</sub> ) <sub>2</sub>                                  |                |                              | 450                          | 450          |
| Mn(NO <sub>3</sub> ) <sub>3</sub>                                  |                |                              | 2                            | 2            |
| HNO <sub>3</sub>                                                   | 100 *          | 2900 *                       | 287                          | 3287         |
| Oxalic Acid                                                        |                |                              | 6                            | 6            |
| Na <sub>2</sub> CO <sub>3</sub>                                    |                | 2350                         |                              | 2350         |
| NaOH                                                               | 4500           | 135                          | 150                          | 4785         |
| NaNO <sub>3</sub>                                                  |                |                              | 370                          | 370          |
| Na <sub>3</sub> PO <sub>4</sub>                                    |                | 350                          |                              | 350          |
| H <sub>2</sub> SO <sub>4</sub>                                     |                | 5*                           | 80                           | 85           |
| Th(NO <sub>3</sub> ) <sub>4</sub>                                  |                |                              | 190                          | 190          |
| UO <sub>2</sub> (NO <sub>3</sub> ) <sub>2</sub> 6 H <sub>2</sub> O |                |                              | 80                           | 80           |
| Water                                                              | 25,000 gal.    | 60,000 gal.                  | 65,000 gal.                  | 150,000 gal. |

\* Acid wastes from the 706 D Area are neutrallized by the caustic or soda ash indicated prior to disposal. Since wastes from 706 E and the Research Center will be neutrallized in the 1100 Area tank farm, prior neutrallization should not be assumed.

\*\* The materials listed in this column are disposed of during a one week period in the month.

\*\*\* Decontamination of the 706 D building is performed about 4 times a year. The monthly average output listed should be considered to occur over a one week period in the month. This week will not coincide with week noted in (\*\*).

This document contains information affecting the national defense of the U.S. within the meaning of the Espionage Act, U.S.C. 50, 31 and 32. Its transmission or revelation of its contents in any manner to an unauthorized person is prohibited by law.